bioactive glass ceramic material is the glass ceramic material having an apatite crystal phase and being of the following composition, in weight percent:

between about 20.0% and about 60.0% of silicon dioxide SiO_2,
between about 5.0% and about 40.0% of phosphorus pentoxide P_2O_5,
between about 2.7% and about 20.0% of sodium oxide Na_2O,
between about 0.4% and about 20.0% of potassium oxide K_20,
between about 2.0% and about 30.0% of magnesium oxide MgO, and
between about 5.0% and about 40.0% of calcium oxide CaO.

14. The process of claim **12**, in which in steps (b) the finely comminuted glass ceramic material is added to a mixture of methyl methacrylate and hardening agent after prepolymerization of said mixture to a predetermined viscosity so as to achieve predetermined fractional segregation and anistropic distribution of the particles of bioactive glass ceramic material within the composite material.

15. The process of claim **12**, in which a catalyst is added as additional component to the mixture of components of the composite material.

16. The process of claim **12**, in which the resulting mixture is caused to polymerize completely so as to produce a prosthetic material.

17. The process of claim **12**, in which the resulting mixture is applied to the bone and implant and is caused to polymerize completely "in vivo" to firmly attach the implant to the bone.

18. The process of claim **16**, in which the mixture of components of the composite material is cooled during polymerization of the plastic material.

19. The process of claim **17**, in which the mixture of components of the composite material is cooled during polymerization of the plastic material.

20. In a method of applying a bone cement to implants so as to firmly attach the implants to the respective skeleton parts of the body, the improvement comprising applying the bioactive composite material of claim **1** to said implants.

21. In a method of applying a bone cement to bone implants so as to firmly join the bone implants to the respective skeleton parts of the body, the improvement comprising applying the bioactive composite material of claim **1** to said implants.

22. In a method of repairing bone, the improvement comprising applying the bioactive composite material of claim **1** as a filling material.

23. In a method of using a fully polymerized material as bone or tooth prosthetic material, the improvement comprising using the fully polymerized bioactive composite material of claim **1** in the shape of bones or teeth or parts thereof.

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